

Code: 07

Permit No.: 06S1261P6301

NOV 23 2011

REPLY TO: 6WQ-S

Certified Mail #7010 1060 0002 1871 7658 - Return Receipt Requested

Mr. Wayne Porter  
Nadel and Gussman, L.L.C.  
3200 First Place Tower.  
15 East 5th Street, Suite 3200  
Tulsa, OK 74103-4340

Re: Draft UIC Permit and Statement of Basis  
Permit No. 06S1261P6301 - Osage County, Oklahoma

Dear Mr. Porter:

Enclosed are the public notice, statement of basis, and the permit which have been drafted by this Agency under the authority of the Safe Drinking Water Act. Any comments you wish to make may be submitted in writing by the due date stated in the public notice to Ms. Evelyn Rosborough at the EPA address above.

The Bureau of Indian Affairs (BIA) also requires that you apply for and receive authorization to complete the work described in the referenced permit application. Both EPA and BIA authorizations must be received prior to the commencement of this work. Please contact the BIA office at (918) 287-5710 for further information.

If you have any questions, or would like to discuss this permit, please contact the permit writer, Mr. Arnold Bierschenk at (214) 665-7435.

Sincerely yours,

Stacey B. Dwyer, P.E.  
Associate Director  
Source Water Protection Branch

Enclosures

cc: with enclosures

BIA, Minerals Branch

Osage UIC Office

6WQ-SG: ABierschenk: 10/04/11: 06S1261P6301.3

6WQ-SG *ARB*

DELLINGER

*PD 10/6/11*

NOV 23 2011

REPLY TO: 6WQ

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Mr. Wayne Porter  
Nadel and Gussman, L.L.C.  
3200 First Place Tower.  
15 East 5<sup>th</sup> Street, Suite 3200  
Tulsa, OK 74103-4340

Re: Emergency Permit - Permit No. 06S1261P6301  
Osage County, Oklahoma

Dear Mr. Porter:

Regulations at 40 C.F.R. §147.2906 provide for issuance of emergency permits to avoid a substantial delay in oil and gas production. In accordance with the provisions of those regulations, an emergency permit is issued to Nadel and Gussman, L.L.C. for conversion and injection into Well No. South Bend 2A-11, located in Osage County, Oklahoma at 300' FSL, 300' FWL, SE Quarter, Section 11, Township 23N, Range 03E.

As permittee, you are authorized to inject salt water for disposal under the following conditions:

1. Mechanical integrity of the well must be demonstrated, to the satisfaction of the EPA, prior to injection.
2. The permittee is authorized to inject salt water into the Arbuckle at an injection interval depth of 4377 to 5272 feet below land surface.
3. Injection shall not result in the movement of fluid into an Underground Source of Drinking Water (USDW). The operating injection pressure at the wellhead shall not exceed 50 psig.
4. Injection volume shall be limited to a maximum of 480,000 barrels per month.

6WQ-SG: ABierschenk: 10/04/11: 06S1261P6301.6

6WQ-SG 6WQ-S

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5. During the emergency authorization period, the owner/operator shall comply with UIC regulations at 40 C.F.R. §147 Subpart GGG .


A complete permit application has been submitted. Emergency authorization to inject shall remain in effect until EPA issues a final decision on the permit application. Failure to abide with the above requirements is a violation of the Safe Drinking Water Act and may result in enforcement action.

If you have any questions, or would like to discuss this emergency permit, please contact the permit writer, Mr. Arnold Bierschenk at (214) 665-7435.

Sincerely yours,



Miguel I. Flores

 Director

Water Quality Protection Division

cc: BIA, Minerals Branch  
Osage UIC Office

7010 1060 0002 1871 7658

U.S. Postal Service™	
CERTIFIED MAIL™ RECEIPT	
(Domestic Mail Only; No Insurance Coverage Provided)	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
OFFICIAL USE	
Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Postmark Here	
Sent To Nadel and Gussman, L.L.C.	
Street, Apt. No., or PO Box No. 3200 First Place Tower	
City, State, ZIP+4 15 East 5th Street, Suite 3200	
Tulsa, OK 74103-4340	
PS Form 3800, August 2006 See Reverse for Instructions	

**U.S. Environmental Protection Agency  
Public Notice of Draft UIC Permit(s)**

**November 23, 2011**

**This is to give notice that the U.S. Environmental Protection Agency, Region 6, has formulated a Draft Permit for the following facility (facilities) under the Osage Mineral Reserve, Osage County, Oklahoma, Underground Injection Control (UIC) Program of the Safe Drinking Water Act. Development of the draft permit(s) was based on a preliminary staff review by EPA. The permit(s) will become effective within 15 days after the close of the comment period unless:**

- A. Comments received by December 8, 2011, in accordance with §124.20, warrant a public notice of EPA's final permit decision.**
- B. A public hearing is held requiring delay of the effective date.**

**EPA's contact person for submitting written comments, requesting information regarding the draft permit, and/or obtaining copies of the permit and the Statement of Basis is:**

**Ms. Diane Smith  
Planning and Analysis Branch (6WQ-NP)  
U.S. Environmental Protection Agency  
1445 Ross Avenue  
Dallas, Texas 75202-2733  
(214) 665-2145**

**EPA's comments and public hearing procedures may be found at 40 CFR 124.10 and 124.12 (48 Federal Register 14264, April 1, 1983, as amended at 49 Federal Register 38051, September 26, 1984). Additional procedures pertaining to Osage County may be found at 40 CFR 147.2929 (d), Subpart GGG. The comment period during which written comments on the draft permit may be submitted extends 15 days from the date of this Notice. During the comment period, any interested person may request a Public Hearing by filing a written request which must state the issues to be raised. A public hearing will be held when EPA finds a significant degree of public interest.**

**EPA will consider all comments submitted either in writing or at a public hearing when making its final permit decision. Any person that files comments on the draft permit may appeal the final permit decision. Persons who did not comment on the draft permit may appeal only those changes made to the final permit subsequent to draft permit issuance. Appeals to the final permit decision must be submitted in writing to the Administrator within 30 days after a final permit decision has been issued. An appeal must contain the information set out in 40 CFR 124.19 and 147.2929(j)(3).**

**EPA will notify the applicant and each person who has submitted written comments of requested notice of the final permit decision. A final permit decision means a final decision to issue, deny, modify, revoke or reissue, or terminate a permit. If a request for review of a final permit is granted, EPA will follow procedures found at 40 CFR 127.2929.**

**Further information including the administrative record is available for public review Monday through Friday from 8:00 a.m. to 4:00 p.m. at the Osage UIC Office, 100 West Main, Suite 304, Osage Agency Campus, P.O. Box 1495, Pawhuska, OK 74056 or at the EPA address referenced above. It is recommended that you write or call for an appointment so the record (s) will be available at your convenience.**

The Environmental Protection Agency (EPA) has received a complete Underground Injection Control (UIC) permit application number 06S1261P6301 from

Nadel and Gussman, L.L.C.  
3200 First Place Tower.  
15 East 5<sup>th</sup> Street, Suite 3200  
Tulsa, OK 74103-4340

The permittee proposes to convert well number South Bend 2A-11 to a salt water disposal injection well located in the SE Quarter, Section 11, Township 23N, Range 03E, Osage County, Oklahoma. The application requests authorization to inject salt water into the Arbuckle at injection interval depth of 4377 to 5272 feet for disposal. The Underground Source of Drinking Water is at a depth of 319 feet below land surface. A maximum of 480,000 barrels/month will be injected at a maximum pressure of 50 psig.

The permit application, supporting data submitted by the applicant, the EPA draft permit modification and statement of basis are available for public review Monday through Friday from 8:00 a.m. to 4:00 p.m. at the Osage UIC Office, 100 West Main, Suite 304, P.O. Box 1495, Pawhuska, OK 74056, (918) 287-5333 or at the Environmental Protection Agency, 1445 Ross Avenue, Dallas, TX 75202-2733, (214) 665-7165. Comments on the permit application and draft permit should be submitted to the Dallas office within 15 days of the date of this notice. Anyone desiring a hearing must submit a written request, identifying the issue(s) for discussion at the hearing, to the EPA office in Dallas, Texas, before the close of business on the last day of the comment period. EPA will give at least 30 days notice of the public hearing, if a hearing is held.

**Scan Code: 07**

**Permit No.: 06S1261P6301**

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AFB  
6WQ-SG: ABierschenk: 10/04/11: 06S1261P6301.5

6WQ-SG

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PD 10/6/11



October 4, 2011  
STATEMENT OF BASIS

For proposed Underground Injection Control Permit No. 06S1261P6301 to convert a well to a salt water disposal injection well.

Issuing office: U.S. Environmental Protection Agency  
Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

Applicant: Nadel and Gussman, L.L.C.  
3200 First Place Tower.  
15 East 5<sup>th</sup> Street, Suite 3200  
Tulsa, OK 74103-4340

1. As described in the application, the well is located in Osage County, Oklahoma, 300' FSL, 300' FWL, SE/4, Section 11, Township 23N, Range 03E.
2. On the basis of preliminary staff review, the Environmental Protection Agency has made a tentative determination to draft a permit for the construction of this well as described in the application.
3. The following is an explanation of the derivation of the conditions of the draft permit and the basis for them as required under 40 CFR §147.2929 dated November 15, 1984:

40 CFR §147.2904

The area around the proposed injection well or project must be evaluated to ensure that the proposed injection will not cause movement of fluid into an Underground Source of Drinking Water (USDW) through improperly sealed, completed, or abandoned wells. The permit applicant submitted information on all wells of public record penetrating the injection interval within 1/4 mile of the proposed injection site and can inject a maximum of 480,000 barrels per month (B/M).

QFB  
6WQ-SG: ABierschenk:10/4/11 06S1261P6301.2  
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EPA did not calculate a "zone of endangering influence" (the lateral area around the proposed injection in which injection pressures may cause movement of fluid into a USDW) because the permeability of the Arbuckle is so high due to fractures, that pressure buildup is not a concern.

40 CFR §147.2919(a)

The well must be sited so that injection is into a formation which is separated from USDWs by a confining zone free of known open faults or fractures within the area of review. The proposed injection interval in the Arbuckle is at a depth of 4377 feet to 5272 feet and is approximately 4058 feet below the base of the USDW. A review of available data has shown no evidence of faults or fractures in the confining zone within the area of review.

40 CFR §147.2919(b)

The well must be cased and cemented to prevent fluid movement into or between USDWs. The base of the USDW occurs at 319 feet below land surface. Since the surface casing is set at 371 feet below land surface and cemented with 175 sacks of cement to surface, and the production casing is set at 4377 feet, cemented with 470 sacks of cement, this is adequate.

40 CFR §147.2920

To assure the protection of USDWs adjacent to the well bore, injection must be through an adequate tubing and packer. The packer must be set within 75 feet of the top of the injection interval. Since the top of the injection interval is at 4377 feet, the packer in this well must be set inside the casing between 4302 and 4372 feet of depth below land surface [40 CFR §147.2920(a)]. Injection pressure at the wellhead shall be limited so that it does not initiate new fractures or propagate existing fractures in the confining zone adjacent to any USDW [40 CFR §147.2920(c)]. In this well, the maximum injection pressure at the wellhead shall not exceed 50 psig.

To assure that USDWs are protected from injection fluids, the well must maintain mechanical integrity. Mechanical integrity must be demonstrated prior to operation and at least once every five years thereafter [40 CFR §147.2920(b)].

For additional information, please contact:

Ms. Evelyn Rosborough  
Permit Processing Team (6WQ-NP)  
U.S. Environmental Protection Agency  
Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733  
(214) 665-7515





Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

UIC Permit No. 06S1261P6301  
Well No.: South Bend 2A-11

## AUTHORIZATION TO CONVERT A WELL TO AN INJECTION WELL UNDER THE UIC PROGRAM OSAGE MINERAL RESERVE

In compliance with the provisions of the Safe Drinking Water Act, (hereafter referred to as "the Act" or "SDWA") as amended (42 U.S.C. §300f et seq.),

Nadel and Gussman, L.L.C.  
3200 First Place Tower.  
15 East 5<sup>th</sup> Street, Suite 3200  
Tulsa, OK 74103-4340

is authorized to convert a well to a Class II enhanced oil recovery injection well. This well is located at:

300 feet from the south line and 300 feet from the west line, Southeast Quarter, Section 11, Township 23N, Range 03E into the injection interval at a depth of 4377 to 5272 feet below land surface in the Arbuckle in accordance with the construction and operation requirements, injection pressure limits, reporting and monitoring requirements, and other conditions set forth in Parts I and II of this permit and the Osage Class II Underground Injection Control Program and Regulations.

**Unless authorization to inject is granted, this permit shall remain in effect for one year from the effective date shown below. Authorization to inject fluids into the well shall be granted only upon compliance with permit conditions, I.A.1., I.A.2., I.A.3., and I.B.1. Authorization to inject fluids into the well may be verbally granted by the Chief, Ground Water/UIC Section or by written "Authorization to Inject" from the Director, Water Quality Protection Division (6WQ). Upon authorization to inject, this permit shall remain in effect until the well is plugged or the permit is terminated.**

This permit shall become effective on

Prepared by

Issued on

*Arnold Bierschenk*

Arnold Bierschenk  
Environmental Scientist  
Ground Water/UIC Section  
(6WQ-SG) *AFB*

6WQ-SG: ABierschenk: 10/4/11

6WQ-SG 6WQ-S

DELLINGER DWYER

*Miguel I. Flores*

*William K. Hooker*  
Active Division Director  
Water Quality Protection  
Division

06S1261P6301.1

*PD 10/6/11* *10/17/11*



Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

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Issued on

Arnold Bierschenk  
Environmental Scientist  
Ground Water/UIC Section  
(6WQ-SG)

William K. Honker, P.E.  
Acting Director  
Water Quality Protection  
Division

6WQ-SG: ABierschenk: 10/4/11 06S1261P6301.1f  
6WQ-SG 6WQ-S  
DELLINGER DWYER

Part I. SPECIAL PERMIT CONDITIONSA. Construction Requirements

1. The surface casing shall be set at 373 feet below land surface, cemented to the surface with 175 sacks of cement, the production casing set at 4377 and cemented with 470 sacks of cement.
2. The well shall be equipped with standard female fittings with cut-off valves connected to the tubing and the tubing/casing annulus so that the injection pressure and annulus pressure may be measured by an EPA representative by attaching a gauge having a standard male fitting.
3. Tubing and packer shall be installed. The packer shall be run on the tubing and set inside the casing between 4302 and 4372 feet of depth below the land surface.

B. Operating Requirements

1. Authorization to inject will not be granted until the permittee shows to the satisfaction of the Director, Water Quality Protection Division, pursuant to 40 CFR §147.2920(b)(1)(i) that the well has mechanical integrity. The well's mechanical integrity must be demonstrated prior to the start of injection and at least every five years thereafter. The permittee must notify the Osage UIC office at least five (5) days prior to mechanical integrity testing so that an EPA representative can witness the test.
2. Injection pressure at the wellhead shall not exceed 50 psig.
3. The permittee is authorized to inject salt water for disposal.
4. Injection volume shall be limited to 480,000 barrels per month.



Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

UIC Permit No. 06S1261P6301  
Well No.: South Bend 2A-11

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*Arnold Bierschen*

Arnold Bierschen  
Environmental Scientist  
Ground Water/UIC Section  
(6WQ-SG) *AFB*

6WQ-SG: ABierschen: 10/4/11

6WQ-SG 6WQ-S  
DELLINGER DWYER

*Miguel I. Flores*  
Acting Division Director  
Water Quality Protection  
Division

06S1261P6301.1f

*William K. Howker*

*DD 10/6/11*

*DD 10/17/11*



Region 6  
1445 Ross Avenue  
Dallas, Texas 75202-2733

UIC Permit No. 06S1261P6301  
Well No.: South Bend 2A-11

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